

# Evaluation of a Commercial Brucella IgG and IgM ELISA for Diagnosis of Human Brucellosis

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Human brucellosis remains prevalent in many parts of the world. Its polymorphic clinical presentation overlaps with several infectious and non-infectious diseases, thus necessitating the use of specific tests for diagnosis.

We assessed new commercially available Brucella IgG and IgM ELISA assays (PANBIO, Windsor, Brisbane, Australia) against Brucella standard tube agglutination test (SAT) and Brucella anti-human IgG globulin test (Coombs), routinely used in clinical laboratories. Parallel testing was performed on 65 sera of patients diagnosed to have brucellosis with positive SAT and Coombs, and on 68 control sera that were negative. Control specimens consisted of sera from apparently healthy adults (n=14) and sera showing positive test markers for auto-immune disease (n=14), rheumatoid arthritis (n=6), TORCH (n=6), infectious mononucleosis (n=8), parvovirus (n=3), syphilis (n=3), *Streptococcus pyogenes* (n=4), *Rickettsia* sp. (n=6), and *Salmonella* sp. (n=4). Concordant results between ELISA IgG and ELISA IgM, and those of SAT and Coombs' titers were found among 91% of the Brucella patients' sera. 100% of the control sera were negative by all tests. The discrepant results were noted among 6 Brucella samples which were positive by SAT, Coombs and Brucella ELISA IgM titers but showed negative Brucella ELISA IgG. Compared to SAT & Coombs, the sensitivity of Brucella ELISA IgG and IgM were 91% and 100% respectively, while the specificity was 100% for both. Thus, these ELISA assays can provide reliable and rapid (around 2.5hr) results for the diagnosis of human brucellosis.



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